From:	Powers, David
To:	Wu, Jennifer; Leinenbach, Peter
CC:	Rueda, Helen; Henning, Alan; Carlin, Jayne
Sent:	4/1/2013 12:52:26 PM
Subject:	RE: Midcoast sediment plans

Pete is on target. Based on my past conversations with Ryan and Josh, the literature review appears to be more tied to future BMPs that could address sediment… and general documentation that demonstrates a forest management connection with increased landslides/sedimentation rates.

An analogy would be doing a source/linkage analysis to prove that smoking cigarettes caused Jane Doe's lung cancer… versus doing a literature review to see what studies on the broader population (people other than Jane Doe) say about the relationship between smoking cigarettes and increased risk of getting cancer…and how you can prevent cancer (stop smoking and clearcutting on high risk landslide prone slopes that can deliver sediment sans large wood to streams) . The tougher question that the literature review won't answer is specifically, what requirements result in an acceptable level of protection. That is more of a policy/political call.

From: Wu, Jennifer
Sent: Monday, April 01, 2013 8:54 AM
To: Leinenbach, Peter
Cc: Powers, David; Rueda, Helen; Henning, Alan; Carlin, Jayne
Subject: RE: Midcoast sediment plans

Thanks so much, Peter. I really appreciate you taking a look at this and following up with Ryan. It's exactly what's helpful, looking at how the steps are linked, important areas to look at for the sediment assessment, etc.

Since ODEQ is taking a more deliberate process with the tech analysis, it'll be great to continue getting your reviews and insights to the approach and products. Thanks again. This'll make our whole team feel more confident and informed about DEQ's technical defensibility. Not that I don't have faith in DEQ, but it's important to have our independent review – or yours!

From: Leinenbach, Peter
Sent: Friday, March 29, 2013 12:59 PM
To: Wu, Jennifer
Cc: Leinenbach, Peter; Powers, David
Subject: RE: Midcoast sediment plans

Jenni –

I took a look at the material and I have a couple of points to make –

Sediment/Biocriteria Approach - It appear that the sediment modeling work is **not** driven by action 7.2 (Literature Review). That is, you could do the modeling analysis without this step (they do not seem to need to use it in the modeling step). However, I am sure that it will be a very good document describing the sediment processes and it might help them determine if any relationship they find in step 7.3 (Source/Linkage Analysis) makes sense. In other words, the model results are going to tell them what it is going to tell them during step 7.3 - The two datasets used in this modeling is watershed characteristic and biological data and these do not care about literature reviews. However, the literature review might influence the type of watershed data you would use in the analysis (maybe it would??).

1996 Flood Study by ODF – That is really cool the lidar results showing the deep-seated landslide.

I may be going on a limb here, but their conclusion that Shallow Rapidly Moving Landslides only have a short term impact might be misleading (stated on the middle slide on page 11). That is, the initial travel time that this event my only be a few seconds to minutes; depositing a bunch of sediment within the stream channel when it is moving. However, the fact that it has stopped moving in the quick sense (e.g., fast moving during the slide), this event still

produces a lot of sediment dumped in the stream channel, which will then slowly move down the stream. At some point in the far distant future (e.g., years, decades, and in some cases centuries) the sediment will move out. In all of time it is moving through the system, it can be a 'problem'. I guess I am saying is that once the sediment stops moving quickly does not mean that it is not important (i.e., "then often erased from landscape" quote taken from the slide on page 11).

"High Hazard" slide was on steep slopes, and it is interesting that these area are type "n" stream, which have much lower protection associated with them. So are the number of slides due to the slope of the vegetation management on these high slope areas?

Ryan's presentation about the shallow landslide analysis - The three most important steps associated with the modeling effort are 1) how many sediment producing slide event are being produced; 2) how much sediment is being produced by each slide event; and 3) how is the produced sediment being distributed throughout the watershed. Each one of these steps has its own limitation and uncertainty associated with it. The first step seems to be accomplished using the Geomorphic Approach. I do not know how the second step is going to be accomplished based on the handout material. It appears that they are working out the last step at this time. I sent an e-mail to Ryan asking him for the literature citation for two of the listed potential methods to be used for this step. In the past, I have not been impressed with the methods used to accomplish this task (e.g., route the sediment in the stream channel) because there is a lot of unknowns and uncertainty with this phenomenon. But such is life – just need to try to use the best method.

Peter

From: Wu, Jennifer
Sent: Thursday, March 28, 2013 3:54 PM
To: Leinenbach, Peter
Subject: RE: Midcoast sediment plans

Hey Peter – sorry I didn't get back to you earlier. There's nothing electronic, but I'll drop off my files to you when I leave in about a half an hour. Or if you're very curious, feel free to drop by and pick up. I just have to finish a couple of things before I leave for the week. - Jenny

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From: Leinenbach, Peter
Sent: Thursday, March 28, 2013 12:36 PM
To: Wu, Jennifer
Subject: Midcoast sediment plans

Jenni –

Can you send me the Midcoast sediment plans? I have some time to look it over. Thanks

Peter Leinenbach
Aquatic and Landscape Ecologist
U.S. Environmental Protection Agency - Region 10
Office of Environmental Assessment